



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/098,190	06/16/98	SHEATS	J 10980239-1

HEWLETT-PACKARD COMPANY
IP ADMINISTRATION
P O BOX 10301
PALO ALTO CA 94303-0890

WM51/1025

EXAMINER

PIZIALI, J

ART UNIT	PAPER NUMBER
----------	--------------

2673

DATE MAILED:

10/25/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/098,190

Applicant(s)

Sheats et al.

Examiner

Jeff Pizlall

Group Art Unit
2673



☒ Responsive to communication(s) filed on Sep 1, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 3-12 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☒ Claim(s) 4-7 and 9-12 is/are allowed.

☒ Claim(s) 3 and 8 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 2673

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dingwall (5,903,246) in view of Gu et al. (5,844,363).

Dingwall discloses a display [column 2, lines 5-9] comprising a plurality of light emitting pixels (P), each pixel (P) comprising an isolation transistor (T), a driving circuit (C and TR), and an organic light emitting diode (P), the driving circuit (C and TR) storing a value that determines the magnitude of the light emitted by that pixel (P), the driving circuit (C and TR) placing the OLED (P) in a conducting path between first (Column) and second (Row) power terminals, the isolation transistor (T) connecting the driving circuit (C and TR) to a bit line (Column) when the isolation transistor (T) is placed in a conducting state by the application of a logic signal to a word line (Row) [figure 2; column 4, line 35 - column 5, line 45], wherein the OLEDs (P) are part of an array of OLEDs (P), the array comprising: a sheet (glass substrate) having first and second surfaces, the first and second surfaces being parallel to one another, the sheet being transparent to light of a first wavelength; a first electrode (ITO anode) comprising a first electrode layer in

Art Unit: 2673

contact with the first surface, the first electrode layer being transparent to light of the first wavelength; a light emitting layer (organic hole transport layer) comprising an organic polymer in electrical contact with the first electrode layer; and a plurality of second electrodes (cathode), one such second electrode corresponding to each OLED (P), each of the second electrodes (cathode) comprising an isolated conducting area in contact with the light emitting layer, the light emitting layer generating light of the first wavelength in a region adjacent to the second electrode when a potential difference is applied across the first (anode) and second (cathode) electrodes [figure 1; column 3, line 42 - column 4, line 34]. Dingwall does not disclose expressly a flexible substrate array of OLEDs.

However, Gu et al. does disclose flexible OLEDs [column 1, line 56 - column 2, line 26].

Thus it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to utilize Gu's flexible OLEDs as Dingwall's substrate array of OLEDs, so as to provide use as light weight, portable, roll-up displays and conformable displays.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dingwall (5,903,246) in view of Bulovic et al. (5,834,893).

Dingwall does not disclose expressly a flexible substrate array of OLEDs, wherein the OLEDs have sufficient flexure to allow each OLED to be connected to a corresponding one of the driving transistors when the array of OLEDs is pressed against the array of driving transistors.

Art Unit: 2673

However, Bulovic et al. does disclose a flexible substrate array of OLEDs, wherein the OLEDs have sufficient flexure to allow each OLED to be connected to a corresponding one of the driving transistors when the array of OLEDs is pressed against the array of driving transistors [column 2, lines 6-21].

Thus it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to utilize Bulovic's flexible OLEDs as Dingwall's substrate array of OLEDs, so as to provide use as light weight, portable, roll-up displays and conformable displays.

Allowable Subject Matter

4. Claims 4-7 and 9-12 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not expressly disclose a bonding layer comprising an anisotropic conductive adhesive located between the transistor array and the array of OLEDs, the bonding layer being in contact with a plurality of connection points and electrically connecting each of the second electrodes to a connection point corresponding to the second electrode without electrically connecting any one of the second electrodes to a connection point that does not correspond to the second electrode.

Art Unit: 2673

Response to Arguments

6. Applicant's arguments with respect to claims 3 and 8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bao (5,969,376), Choi et al. (5,970,318), Strite (6,023,073) and Bulovic et al. (6,046,543) are cited to further show the state of the art with respect to light emitting pixel displays.

Art Unit: 2673

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (703) 305-8382. The examiner can normally be reached on Monday - Friday from 6:30 AM to 3 PM E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on (703) 305-4938.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:


(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-6606 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).


BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2700

JP
10/23/00